



Karen Molchanow
Executive Director
Pennsylvania State Board of Education
333 Market Street, 1st Floor
Harrisburg, PA 17126

Dear Ms. Molchanow,

Pennsylvania Farm Bureau, the state's largest general farm organization, is thankful for the chance to offer comments on proposed changes by the State Board of Education to the state's academic standards in Science and Technology and Environment and Ecology.

Our membership reflects the diversity of Pennsylvania agriculture. Our members come from farms of all shapes and sizes, commodities and growing philosophies. Proper education for children on agriculture, and how it intersects with food production and the environment, have long been priorities of our organization and the agriculture community as a whole. Farmers have an excellent story to tell of stewardship, environmental conservation and commitment to healthy air, soil, and water. They operate their farms by following conservation practices that allow them to produce food for their communities, while conserving the environment. After all, agriculture cannot exist without clean water and productive soil.

Every aspect of agriculture is touched by the principles outlined in STEM. Farmers rely on the latest research and technology, whether it's for proper animal nutrition, or modern farm equipment. For agriculture to thrive and grow, we will need a new generation of students who want to apply their experience in science, math, engineering and vocational arts into careers in agriculture. And, broadly speaking, it's our hope that every student has a literacy in agriculture so that they can be informed consumers.

Agriculture literacy, promotion of careers in agriculture and how agriculture intersects with STEM principals, is a leading concern of our organization. Since 1986, Pennsylvania farmers and agribusinesses have funded the Pennsylvania Friends of Agriculture Foundation. The mission of the foundation is to expose students to agriculture through a variety of resources. The most visible of these efforts is our Mobile Ag Education Science Labs. These "classrooms on wheels" visit public and private schools across the state to give students a hands-on lesson in agriculture. Curriculum, created by state-certified teachers, help students in kindergarten through eighth grade, explore the science behind agriculture. Students are given lessons that are tailored for their age group. For instance, students can learn about how soybeans can make crayons, or how farm products go into their favorite foods. In addition, our foundation funds a weeklong teacher training program that gives educators lesson plans to bring back to their classrooms. Educators can receive Act 48 credits for attending.

As we review the proposed Science and Technology and Environment and Ecology standards, we are asking the State Board of Education to address the following issues:

1. We note that sections 4.4 and 4.5 of the Environmental and Ecology standards are missing in the proposed standards. We suggest adding material from the 2002 standards into this proposal.
2. The current standards for students in kindergarten through fifth grade should be explored in greater detail and with inclusion from subject matter experts in agriculture and the environment. This is a critical age group for students to begin to understand agriculture, where their food comes from, how our environment works and how we can protect our natural resources. Agriculture frequently intersects with the environment. This is a perfect age group to use agriculture as a way for students to understand conservation and the natural cycle.
3. At a minimum, we believe the 2002 Standards for Health, Safety, and Physical Education and Family and Consumer Science that relate to agriculture should be brought forward into new standards. Their inclusion could be used as a basis for kindergarten through fifth grade standards.
4. We see a lack of firm detail in addressing general knowledge of agriculture, what it means to be an informed consumer, who cares for the environment, and how all of this can apply as students begin to shift to more vocational knowledge.
5. Broadly speaking, we believe these standards present an excellent opportunity for Pennsylvania to highlight careers in agriculture and food science. This proposal does not provide the right connections for students to make between STEM and the availability of quality careers in agriculture. For years, Pennsylvania farmers and agribusinesses have been trying to shake the stereotype that jobs in agriculture are only available in production agriculture—namely raising crops and tending to animals. While those careers exist, the full breadth of careers in agriculture is broad. From plant scientists to large animal veterinarians, students who excel in STEM can find rewarding careers in agriculture. We hope that these proposed standards would fully identify those career options, given the importance of agriculture in our state and the numerous career vacancies that exist now and into the future.

Thank you for giving Pennsylvania Farm Bureau the opportunity to offer comments on these proposed standards.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Ebert", with a stylized, flowing script.

Rick Ebert
President, Pennsylvania Farm Bureau